

Gardasoft Controller Snippets for Cognex In-Sight Explorer

Issue 1

Compatible with

COGNEX

User's Guide

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1 Introduction

This document describes the use of the two Cognex™ *In-Sight Explorer* snippets which have been produced to allow simple communication and control of the **triniti™** range of Gardasoft controllers from within *In-Sight Explorer* applications.

The document assumes that the user has prior knowledge of using snippets within the *In-Sight Explorer* environment. Should you need additional information about using snippets, then please refer to Cognex *In-Sight Explorer's* own documentation.

The snippets have been written to function within *In-Sight Explorer* version 4.9.0 onwards.

Once you are familiar with the implementation of these snippets please ensure that you read the manual for the controller being used for more information about these parameters and how to use them.

2 Snippet description

As of December 2015, there are two snippets:

Gardasoft-In-Sight-Comms-Configuration-Snippet-Release-vx.x

This snippet is used once in each job spreadsheet to allow configuration of the communication with the Gardasoft controller.

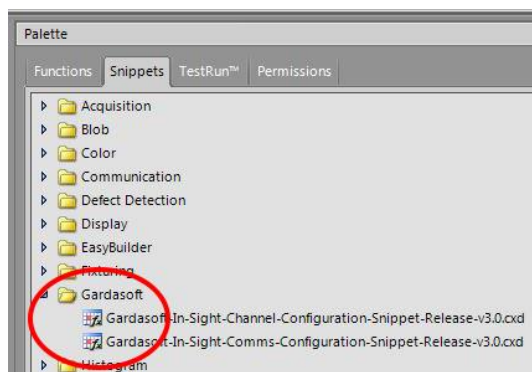
Gardasoft-In-Sight-Channel-Configuration-Snippet-Release-vx.x

An instance of this snippet is used for each channel to be configured within the Gardasoft controller to allow configuration of the lighting/pulses.

3 Snippet installation in the In-Sight Explorer environment

3.1 Later Versions of In-Sight Explorer

The snippets may already be included in the *In-Sight Explorer* installer. This can be determined by using the **Spreadsheet** view within In-Sight Explorer and then looking in the **Palette** panel's **Snippets** tab (see below) on the right hand side of the *In-Sight Explorer* window. If there is a Gardasoft folder, then the snippets should already be installed.



3.2 Earlier Versions of In-Sight Explorer

Where the snippets are not already present, they can be downloaded from the Gardasoft Website at:

www.gardasoft.com/Downloads/

Once they have been downloaded, create a 'Gardasoft' folder at the following location (**Note:** This may vary slightly depending on *In-Sight Explorer* version):

C:\Program Files (x86)\Cognex\In-Sight\In-Sight Explorer 4.9.0\
Snippets\Gardasoft.

Copy the two downloaded snippets into this folder. The next time *In-Sight Explorer* is started the folder will appear in the **Snippets** tab as described above.

4 Snippet Installation

4.1 Design Notes

In order to communicate with and configure Gardasoft controllers, a minimum of one Comms snippet and one Channel snippet need to be copied into the spreadsheet view of the *In-Sight Explorer* Job. The number of Channel snippets is determined by the number of channels present on the Gardasoft controller e.g. TR-RT420 has four channels, so up to four Channel snippets can be added.

4.2 Adding the Snippets to the In-Sight Explorer spreadsheet

Add the snippets by dragging them from the snippets list in the Palette's **Snippets** tab into the spreadsheet. Ensure that the job is not in 'protected mode' and that the Job isn't 'online'. If the snippets won't drag onto the spreadsheet go to **File > Unprotect Job** on the main *In-Sight Explorer* menu.

A Comms snippet must be copied across first and then as many 'Channel snippets' as required can be added beneath as shown overleaf:

The screenshot shows a spreadsheet with the following sections:

- Comms Configuration (Rows 15-19):** Includes fields for Host Name or IP Address (with a red box around the input), Reply Text, Status, Error Code, and Error Code. A 'Test Comms' button is highlighted in blue.
- Channel Configuration 1 (Rows 20-27):** Includes Mode, Brightness, Pulse Widthms, Pulse Delayms, Trigger Input, Internal Trigger Flag, and Trigger Polarity. A 'Send Configuration Channel 1' button is highlighted in blue.
- Interface Code Below - Do Not Edit! (Rows 28-33):** A section with various technical parameters like VL1,0,0,200.0mA, Reg Offset, RS1,25,RP1,1, and Binary.
- Channel Configuration 2 (Rows 34-40):** Similar to Channel 1, but with a 'Send Configuration Channel 2' button highlighted in blue.

This screen shows a Comms snippet and two Channel snippets on the spreadsheet. The second Channel snippet has already had its channel number set to 2 as described below.

4.3 Comms snippet configuration

There is only one parameter to configure on the Comms snippet; the IP address of the Gardasoft controller. Its format is aaa.bbb.xxx.yyy (for example: 192.168.1.234), and you enter it into the cell as indicated below:

This close-up shows the 'Host Name or IP Address' cell in the 'Gardasoft TR-RT/RCxxx Comms Configuration' snippet. The input field contains 'Enter IP Address Here' and is circled in red. The 'Test Comms' button is also highlighted in blue.

Assuming that the correct address has been entered and the Gardasoft controller is powered up and connected to the same network, you can test the correct operation by going to the **Online** mode and clicking the **Test Comms** button. If the Comms snippet is operating correctly, the firmware version in the controller appears in the cell under **Reply Text** and the status 'LED' should turn green with no cells displaying #ERR.

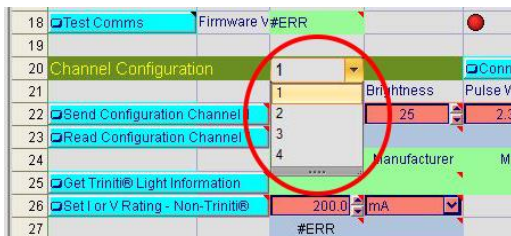
This close-up shows the result after clicking 'Test Comms'. The 'Reply Text' cell now contains a green 'LED' indicator and the firmware version 'Firmware V#ERR' is displayed. The 'Status' cell is also highlighted in green.

If this doesn't happen, check the IP address of the Gardasoft controller is on the same domain subnet as the In-sight camera or Development PC. You can use the *GardasoftMaint* application to check the controller's configuration.

Once the Comms snippet has been installed and tested then Channel snippets can be added.

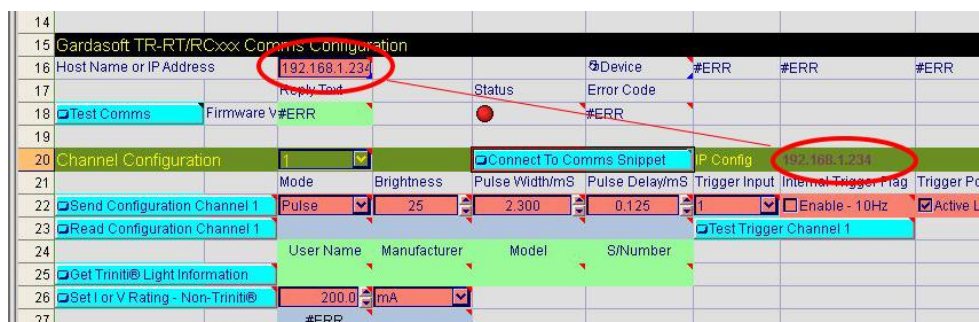
4.4 Channel snippet(s) configuration

There are two steps to configuring the Channel snippets. First, set the Channel number using the drop-down list as shown below:

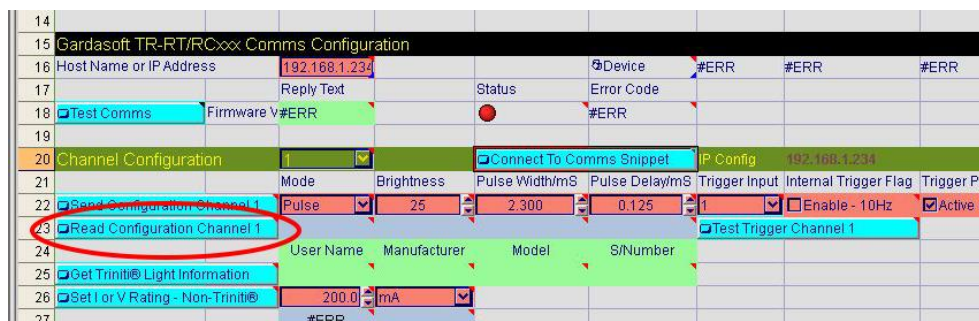


It is important to choose a valid channel number for the Gardasoft controller in use - do not exceed the number of channels available. You should also ensure that the channel numbers are not duplicated within any Job.

Next, connect the Channel snippet to the Comms snippet. Click the **Connect to Comms Snippet** button and ensure that the IP address set in the Comms snippet has been copied across to the cell shown in the Channel snippet (see below).



To check the operation, go to 'Online' mode and click the **Read Configuration Channel 1** button. The Mode, Brightness, Pulse Width, and other values appear in the boxes as shown below.



Repeat this operation for any more Channel snippets required for additional Gardasoft controller channels.

5 Using the Channel snippets

Once the snippets have been set up and connected, they can be used for configuring the working parameters of each of the controller channels. If the controller has **triniti** functionality and a **triniti** compatible light connected to the channel, the **triniti** parameter information can be retrieved from the light.

In order to use the snippet to communicate with the controller, *In-Sight Explorer* must be in Online mode and connected to the PC Emulator or an In-Sight Camera.

The operation mode, brightness, pulse width (if appropriate), and so on, can all be set and retrieved clicking the various buttons on the snippet for the channel required.

14									
15	Gardasoft TR-RT/RCxxx Comms Configuration								
16	Host Name or IP Address	192.168.1.234		Device	#ERR	#ERR	#ERR		
17		Reply Text	Status	Error Code					
18	Test Comms	Firmware V#ERR		#ERR					
19									
20	Channel Configuration	1		Connect To Comms Snippet	IP Config	192.168.1.234			
21		Mode	Brightness	Pulse Width/ms	Pulse Delay/ms	Trigger Input	Internal Trigger Flag	Trigger Po	
22	Send Configuration Channel 1	Pulse	25	2.300	0.125	1	<input type="checkbox"/> Enable - 10Hz	<input checked="" type="checkbox"/> Active L	
23	Read Configuration Channel 1								Test Trigger Channel 1
24		User Name	Manufacturer	Model	S/Number				
25	Get Triniti® Light Information								
26	Set I or V Rating - Non-Triniti®	200.0	mA						
27		#ERR							

To set a parameter, change its value in the red cells as shown above.

Note: All of the values in the red cells are sent to the controller whenever the **Send Configuration Channel 'n'** button is clicked, so ensure that **all** the values are appropriate before sending. If necessary, use the **Read Configuration Channel 'n'** button to determine the current values in the controller and copy these across for the other parameters before sending.

Please read the manual for the controller being used for more information about these parameters and how to use them.

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